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ABSTRACT

A study identified correlates of selected beliefs about drugs, personal drug use, and expected drug use among kindergarten children. As part of a state-wide drug education project, 112 kindergarten children from 5 elementary schools were individually interviewed. Analysis of the data indicated significant relationships between personal use of drugs and race, living arrangement, beliefs about drugs, and expected use of drugs. Significant relationships also existed between expected use of drugs and drug knowledge, beliefs about drugs, and personal use of drugs. Most children exhibited much misinformation about drugs. Early drug education programs should help children develop a correct concept of what drugs are and provide correct information regarding the safe and acceptable use of drugs. Five tables of study data are appended. (Author/JD)

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KINDERGARTEN CHILDREN AND DRUGS: BELIEFS, USE AND EXPECTED USE

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ABSTRACT

The purpose of the study was to identify correlates of selected beliefs about drugs, personal drug use and expected drug use among kindergarten children. As part of a state-wide drug education project, 112 kindergarten children from five different elementary schools were individually interviewed. Analysis of the data indicated significant relationships between personal use of drugs and race, living arrangement, beliefs about drugs and expected use of drugs. Significant relationships also existed between expected use of drugs and drug knowledge, beliefs about drugs and personal use of drugs. Most children exhibited much misinformation about drugs. Early drug education programs should help children develop a correct concept what drugs are and provide correct information regarding the safe and acceptable use of drugs.

KINDERGARTEN CHILDREN AND DRUGS: BELIEFS, USE AND EXPECTED USE

This study was concerned with kindergarten children and drugs. Educators are becoming increasingly aware that efforts to assist people in making intelligent decisions about the use of drugs should begin at an early age. In order to appropriately plan educational programs for younger age groups, assessment of current drug awareness is important. A child entering kindergarten can not be expected to have had experience in any formal drug education program. Korn (1978) points out, however, that many children may encounter a great deal of informal drug education before they are exposed to a school based program. Such informal education may come from their own experience with drugs or the observation of drug use by others. In the absence of a program which includes factual drug information, children might be expected to exhibit confusion and misinformation concerning drugs and medicines (Buch and Davidson, 1982).

The purpose of this study was to identify:(1) beliefs of kindergarten children about drugs, (2) correlates of personal use of drugs, (3) correlates of expected drug use.

Method

The data reported here were collected as part of a drug education program funded by the Arkansas Office of Alcohol and Drug Abuse Prevention. One hundered twelve kindergarten children from five different parts of the state were individually interviewed during school hours. Each child was excused from their regular classroom by his/her teacher and was accompanied by the interviewer to another room where the interview was conducted. Interviews generallly were 12-15 minutes in length, depending on the length of the child's response.

Each interview consisted of general background questions, items related to self concept, and questions concerning alcohol, tobacco and drugs. Specific drug questions included a drug knowledge test (with a focus on drug safety) and the following items: (1) What is a drug? (2) What could a drug be used for? (3) What could a drug do to someone who uses it? (4) Are all drugs good? Are all drugs bad? Can drugs be used for both good and bad? (Note for this item, if a child answered "yes" to a question, no other questions for this item were asked. "Don't know" was recorded for this item only if a child gave this response for all three questions) (5) What are the names of some

drugs? (6) Have you ever used any drugs? (7) Do you expect to use drugs when you are older? why/Why not?

A child's response to each of the first four questions were classified as: (a) drugs are good (therapeutic), (b) drugs are bad, (c) drugs can be used for both good and bad, (d) don't know. Drug names were classified as: (a) OTC or prescription, (b)alcohol or tobacco products, (c) illegal drugs,(d) don't know.

The data were organized into a series of contingency tables. The SAS Program Proc Freq (Ray, 1982) and Bolding's Program Statistics with Finesse (Bolding, 1983) were utilized for data analysis.

Results

Characteristics of the sample are shown in Table 1. All of the children were in kindergarten. The majority were white, attended schools located in an urban area and lived with both parents.

Insert Table 1

About Here

Table 2 illustrates the beliefs children held concerning drugs. The majority of the children could not give a definition of a drug, tell about the use of drugs or indicate the effects of drugs on a user. Most children, however, were able to respond to

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Insert Table 2

About Here

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a question about drugs that required only a "yes" or "no" answer on their part (as in question number 4). Responses classified as "good" were generally worded something like "It makes you better" or "Something you take when you are sick". Responses classified as"bad" were answers such as "It will make you sick or kill you" or "Something that's bad for you and you're not supposed to take."

Neutral definitions of a drug were "a pill" or "a liquid" while a neutral use was "to drink" or "to take." The four answers classified as "neutral" in response to the question "What does a drug do to someone who uses it?" were "to make you high" or "to feel, you know different." While these may or may not be truly neutral responses, it seemed evident to the interviewer that these chilkdren did not view their responses as representing a view of drugs that was particularly good or bad.

Definitions and responses to the use of drugs and drug effects that were classified as "either" were those answers that indicated that the child knew that drugs could be both helpful or harmful, as: "It depends on what kind of drug, some can make you well, others can make you sick or kill you" or "A drug can make you well if you are sick, but if you're not sick and you take a drug it might make you sick."

Table 3 summarizes the findings of the study relative to drug knowledge, drug use and expected use. Points illustrated by the table include: (1) the vast majority of the children could not name a drug; (2) on the drug knowledge test 75 percent of the children answered less than half of the questions correctly; (3) while it is quite likely that 100 percent of the children interviewed had taken aspirin or other therapeutic drugs, more than 75 percnt reported that they had never taken any type of drug; (4) close to half of the children indicated that they expected to use drugs when they were older; (5) reasons for expected use or non-use were classified as: (1) health "Yes, because I might be sick" or "No, it will make you sick and you will die", (2) moral-"It's wrong" or "It would make God sad", (3) modeling reasons-"When I'm older because I'll be grown up then" or

"No, because Mom and Dad don't do that and they wouldn't want me to either" (4) aesthetic reasons-"No, that's really yucky stuff" or "Yes, I like the way it tastes"(5) curiosity-"Well, I've never tried it before". More than half of the children could not give a reason for their expected use or non-use of drugs.

Insert Table 3

About Here

Data from the contingency table analysis are shown in Tables 4 and 5. Factors associated with personal use of drugs are shown in Table 4 with significant ($p<.05$) relationships for

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Insert Table 4

About Here

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(1)Race-black children were more likely to say they had used drugs or that they did not know if they had used drugs than were whitehildren; (2) Living arrangement-Children who did not live with both parents were less apt to indicate that they had not use drugs and were more likely to say that they did not know if they had used drugs than were children who lived with both parents;

(5)Drug definition-Children who could give a definition of a drug were more likely to indicate that they had used drugs than those who could not give a definition. Among those who could give definitions, those children who gave a therapeutic definition were more likely to report having used drugs than children not giving this type of definition. (4) Use of drugs-Children who could indicate a possible use of drugs were more likely to report personal use than children who could not do this. (5)Drugs are-Children completing question 4 "drugs are" were more likely to indicate that they had used drugs than those who responded "don't know" to this item. (6) Expected use-Children indicating they expected to use drugs were more apt to report personal use. (7) Reason-Children giving a reason for their expected use/non-use of drugs were more likely to report having used drugs than children responding "don't know". Among children who could give reasons, those giving health reasons were more apt to say they had used drugs than those giving some other reason.

Factors associated with the expected use of drugs are shown in Table 5 and include:

Insert Table 5

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(1) Drug definition-among children who gave a definition of a drug, those who gave a therapeutic definition were more likely to indicate that they expected to use drugs in the future than were children who gave other types of definitions. (2)Drug use-Children who could indicate a use of drugs were more likely to say that they expected to use drugs than children who could not give a use of drugs. Among those who did indicate a use of drugs, children giving a therapeutic use were more likely to indicate expected use of drugs than were children giving another type of use. (3) Drugs are - Children completing the item "drugs are" were more likely to indicate expected use of drugs than children responding "don't know" to this item. Among children completing the item, those who indicated that drugs could be good were more likely to indicate expected use of drugs than children who said that "all drugs are bad". (4) Personal use-Children who indicated that they had used drugs were more likely to say that they expected to use drugs when they were older than those who had not indicated a personal use of drugs. (5) Reason-Children who could give a reason for their expected use or non-use of drugs were more likely to have indicated that they expected to use drugs than children who could not give a reason . (6) Drug knowledge-Children who scored high

on the test of drug knowledge were more likely to say they expected to use drugs than those who scored low.

Discussion

The results of this study raise several interesting points. It seems that while most children have at least some concept of a drug much confusion exists. For example, probably all of the children had previously used drugs and the chances are excellent that all of them have again used drugs since the interview. Part of this comes from not identifying OTC medicines as drugs; and apparently (for most children) identifying drugs only as something bad. The results of Bush and Davidson's(1982) work with children in grades K-6 also showed this, with over 35 percent of the children in their sample indicating that all drugs were bad. Much confusion was also apparent in the attempts of the children in their study to distinguish between "drugs" and "medicines". In the present study, even among children who recognized both the therapeutic and harmful effects of drugs confusion sometimes existed, as for example in the responses of one child:

(1) What is a drug: "Something you take when you are sick, like medicine"

(2) What could a drug be used for? "For helping sick people"

(3) What does a drug do to someone who uses it? "If they are sick it could make them well; if they are not sick it could make them sick"

(4) Are all drugs good? "no"; Are all drugs bad? "no"; Can drugs be either good or bad? "It really depends on what kind of drug you mean and how a person uses it"

(5) What are the names of some drugs? "Like Tylenol and Bayer" Anything else? "No, that's it.

(6) Have you ever used any drugs? Yes, but only when I'm sick.

(7) Do you expect you will use drugs in the future, like when you get older? "No" Why not? "They can kill you."

Several studies have been conducted that are related to the present research. Shute (1981) and his co-workers examined smoking awareness and practices among first grade and pre-school children. Foulk and Young (1981) reported preliminary data concerning tobacco and alcohol use and expected use among elementary school children. In both of these studies even young children seemed to universally recognize these products and were familiar with their use. The term "drug" was not used in either of these studies.

Freeman and Freeman (1977), Korn (1978) and Bush and Davidson (1982) did attempt to study drug awareness among young children. The Freeman's found that younger elementary children did seem to have some knowledge of alcohol but expressed little awareness of other types of drugs. Korn found that while some first grade children possessed some concept of a drug most children did not. Bush and Davidson concluded that elementary school children exhibited considerable misinformation and confusion about medicines and drugs, but these authors made no distinction between younger and older children.

In this study it was found that while some children did have a great deal of fairly accurate information about drugs, most did not. Children are however exposed to drugs via television and the home before they enter school and throughout their school carreer. The results of this study do seem to support the need for early drug education programs.

Early programs of drug education, do not necessarily need to deal extensively with the effects of drugs. They do need to insure that children delvelop a correct concept of what drugs are. Programs should also attempt to deal with the misinformation to which children are exposed regarding drugs and provide correct information concerning the safe and acceptable use of drugs.

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Table 1

Characteristics of the Sample

Grade	Kindergarten	112 (100%)			
Sex	Male	62 (55.36%)	Female	50 (44.64%)	
Race	White	86 (76.79%)	Black	26 (23.21%)	
Residence	Urban	58 (51.78%)	Rural	54 (48.22%)	
Living Arrangement	Both Parents	87 (77.68%)	One Parent	22 ((19.64%)	Other Arrangement 3 (2.68%)

Table 2

Beliefs About Drugs

	Don't Know	Good	Neutral	Bad	Either
1. Drug Definition	78 (69.64%)	6 (5.36%)	4 (3.57%)	16 (14.28%)	8 (7.14%)
2. Uses of Drugs	80 (71.43%)	10 (8.93%)	12 (10.71%)	8 (7.04%)	2 (1.78%)
3. Drug Effects	70 (62.50%)	5 (4.46%)	4 (3.57%)	32 (28.57%)	1 (0.89%)
4. Drugs Are	18 (16.07%)	23 (20.54%)		52 (46.43%)	19 (16.96%)

Table 3

Knowledge, Use and Expected Use

1. Drug Names	Don't Know Prescription	OTC or Tobacco	Alcohol or	Illegal
	93 (83.04%)	5 (4.46%)	8 (7.14%)	6 (5.36%)
2. Drug Knowledge	Less Than 50% Correct		50% or More Correct	
	84 (75%)		28 (25%)	
3. Personal Use	Have Used		Have Not	Don't Know
	15 (13.39%)		86 (76.79%)	11 (9.82%)
4. Expected Use	Yes		No	Don't Know
	30 (26.79%)		54 (48.21%)	28 (25.00%)

5. Reason					
Health	Moral	Modeling	Aesthetic	Curiosity	Don't Know
14 (12.50%)	5 (4.46%)	9 (8.03%)	18 (16.07%)	2 (1.79%)	64 (57.15%)

Table 4

Factors Associated With Personal Use of Drugs

Factor	Cramer's V	Chi Square	df	P	N	
*Race	0.310	10.749	2	0.005	112	
Sex	0.009	0.009	2	0.996	112	**
**Living Arrang.	0.256	7.319	2	0.026	112	
**Drug Def.	0.235	6.166	2	0.046	112	
**Therapeutic Def.	0.434	6.220	2	0.045	33	
Drug Names	0.106	1.261	2	0.532	112	
*Use of Drugs	0.259	7.513	2	0.023	112	
**Comp. Drugs Are	0.350	27.468	6	0.0001	112	
*Expected Use	0.422	39.954	4	0.001	112	
*Reason	0.277	8.594	2	0.014	112	
**Therap. Reason	0.461	10.194	2	0.001	48	
Drug Knowledge	0.087	0.844	2	0.656	1121	

+Cell size does not meet the assumptions for Chi-Square.

*Statistically significant.

Table 5

Factors Associated With Expected Use of Drugs

Factor	Cramer's V	Chi Square	df	P	N
Race	0.193	4.164	2	0.125	112
Sex	0.069	0.528	2	0.768	112
Living Arrang.	0.138	2.124	2	0.346	112
Drug Def.	0.211	4.967	2	0.084	112
+*Therapeut. Def	0.531	9.573	2	0.008	34
Drug Names	0.110	1.358	2	0.507	112
*Use of Drugs	0.278	8.647	2	0.013	112
+*Therapeut. Use	0.577	14.00	2	0.001	42
+*Comp Drugs Are	0.414	38.354	6	0.0001	112
*Are Therapeut.	0.324	9.878	2	0.007	94
+*Personal Use	0.422	39.953	2	0.0001	112
*Reason	0.458	23.537	2	0.0001	112
*Drug Knoledge	0.244	6.672	2	0.036	112

+Cell size does not meet normal assumptions for Chi-Square.

*Statistically significant.